



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,583	07/25/2003	Ole Sibbesen	078883-0165	9539
22428	7590	10/12/2007		
FOLEY AND LARDNER LLP SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			EXAMINER RAGHU, GANAPATHIRAM	
			ART UNIT 1652	PAPER NUMBER
			MAIL DATE 10/12/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/626,583	Applicant(s) SIBBESEN ET AL.	
	Examiner Ganapathirama Raghu	Art Unit 1652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 August 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 10, 13, 44-47 and 56-70 is/are pending in the application.
- 4a) Of the above claim(s) 10, 13 and 44-47 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 56-70 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/27/07</u> .  | 6) <input type="checkbox"/> Other: _____                          |

***Application Status***

Please note that the instant application/case has been transferred to examiner Ganapathirama Raghu, Art Unit 1652, whose telephone number is (571)-272-4533 and all further enquiries regarding this application should be directed to said examiner.

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05/29/07 has been entered.

In response to the Final Office Action mailed on 01/17/2007 and further an Advisory Action mailed on 07/05/2007, applicants' filed an RCE received on 08/13/07 is acknowledged. Said RCE canceled claims 1-9, 14-43 and 48-55 (although the RCE under Remarks section says claims 1-12, 14-43 and 48-55 are canceled, claim 10 is not canceled but remains withdrawn) and added new claims 56- 70. Thus, claims 10, 13, 44-47 and new claims 56-70 are pending in the instant Office Action, claims 10, 13 and 44-47 remain withdrawn as they are drawn to non-elected inventions, new claims 56-70 are now under consideration.

Objections and rejections not reiterated from previous action are hereby withdrawn.

***Priority***

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). This application is a CON of 09/869,155 filed on 10/01/2001 ABN, which is 371 of PCT/IB99/02071 filed on 12/17/1999 371 and claims the priority date of United Kingdom application 9828599.2 filed on 12/23/1998, United Kingdom application 9907805.7 filed on

Art Unit: 1652

04/06/1999 and United Kingdom application 9908645.6 filed on 04/15/1999. However, examiner notes that only the certified copy of the United Kingdom application 9907805.7 filed on 04/06/1999 has been provided in the original parent application 09/869,155 filed on 10/01/2001, therefore instant claims get the priority date of 04/06/1999.

### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on 03/27/2007 is in compliance with the provisions of 37 CFR 1.97. Accordingly, examiner is considering the information disclosure statement.

### ***Drawings***

The drawings are considered for examination purposes only.

### ***Claim Objections***

Claim 68 is objected to because of the following informality: Claim 68 is not further limiting claim 65, as claim 68 is directed to a dough in which the stickiness is measured by a particular method of measuring stickiness of dough. However, measuring the stickiness of dough does not alter the dough and thus does not limit the claimed dough in claim 65. Appropriate correction is required.

### ***Maintained- 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 56 and 58 are rejected as being anticipated by Paice et al., (Accession No.: P18429, UniProt Database, 1990 and Arch. Microbiol. 1986, Vol. 144: 201-206 cited in IDS) or

Art Unit: 1652

Wolf et al., (Accession No.: I40569, PIR database, 1996 and Microbiology, 1995, Vol. 41: 281-290, cited in IDS). This rejection is based upon the public availability of printed publications. Claims 56 and 58 of the instant application is drawn to a bakery product or a substance for making the same comprising the amino acid sequence of SEQ ID NO: 5 expressed from the nucleotide sequence of SEQ ID NO: 6 wherein said bakery product or substance for making a bakery product is suitable for use in a foodstuff is the same xylanase enzyme. The reference of Paice et al., or Wolf et al., disclose a substance i. e., polypeptide of SEQ ID NO: 5 in a buffer which could be used in making of a bakery product.

In support for the withdrawal of the above rejection, applicants' have provided the following argument.

"The claim includes a limitation wherein said bakery product or substance for making a bakery product is suitable for use in foodstuff".

Reply: The claims as written continue to read on the product disclosed in prior art as the polypeptide enclosed by Paice et al., or Wolf et al., can be reconstituted in any suitable buffer to be used as a substance for making a bakery product

***New-Claim Rejections 35 USC § 102***

Claims 57 and 59 are rejected under 35 U.S.C. 102(b) as being anticipated by Campbell et al., (U.S. Patent No.: 5,405,769, date of patent 04/11/1995). This rejection is based upon the public availability of printed publications. Claims 57 and 59 of the instant application is drawn to a bakery product or a substance for making the same comprising the amino acid sequence of amino acid residues 29-213 of SEQ ID NO: 5, said sequence lacking the leader sequence. The reference of Campbell et al., teach the isolation of a *Bacillus* xylanase having 100% sequence

Art Unit: 1652

homology to the amino acid sequence of amino acid residues 29-213 of SEQ ID NO: 5 lacking the leader sequence and also suggest the use of said xylanase for altering the texture in bakery products (column 1).

*New-Claim Rejections 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this

Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 56-66 and 68-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haarasilta et al., (U.S. Patent No.: 5,176,927, date of patent 06/05/1993) or Poutanen K (1997) in view of Paice et al., (1986) and Campbell et al., (U.S. Patent No.: 5,405,769, date of patent 04/11/1995).

Haarasilta et al., disclose baking products comprising yeast and use of xylanases in said baking products and methods for determining the softness and stickiness of doughs comprising xylanases and yeast (columns 2, lines 32-34; columns 4-6, column 11, line 37-50).

Poutanen K also disclose use of xylanases in baking, baking products and doughs and the mechanism of action of added enzymes in baking products such as improved dough handling properties and specifically effect of addition of xylanases to said baking products resulting in

Art Unit: 1652

improved product quality (column 2, page 302; column 2, page 303 and Fig. 1) and specifically mention that addition of xylanase was effective in increasing the specific volume of wheat bread without causing stickiness (Table 3, page 304).

However Haarasilta et al., or Poutanen K are silent regarding using xylanase in said baking products and said xylanase having the amino acid sequence of SEQ ID NO: 5 and encode by a polynucleotide sequence of SEQ ID NO: 6 or wherein said xylanase having the amino acid sequence of amino acid residues 29-213 of SEQ ID NO: 5. Paice et al., teach the isolation of a polynucleotide and encoding polypeptide from a *Bacillus subtilis* strain having 100% sequence homology to SEQ ID NO: 6 of the instant application and the encode polypeptide has 100% sequence homology to SEQ ID NO: 5 and having xylanase activity. Similarly, Campbell et al., teach the isolation of a *Bacillus* xylanase having 100% sequence homology to the amino acid sequence of amino acid residues 29-213 of SEQ ID NO: 5 lacking the leader sequence and also suggest the use of said xylanase for altering the texture in bakery products (column 1). It would have been obvious to a person of ordinary skill in the art to use the xylanases of Paice et al., and Campbell et al., in baking, baking products and doughs as suggested by Haarasilta et al., or Poutanen K. Motivation to do so derives from the fact that addition of xylanases to said baking products results in improved product quality and specifically mention that addition of xylanase was effective in increasing the specific volume of wheat bread without causing stickiness. The expectation of success is high, because Paice et al., and Campbell et al., teach the isolation of xylanases including xylanases lacking the leader sequence with desirable properties and Haarasilta et al., or Poutanen K disclose the advantages of addition of xylanases in baking, baking products and doughs. Therefore, claims 56-66 and 68-70 are rejected under 35 U.S.C.

Art Unit: 1652

103(a) as being unpatentable over Haarasilta et al., (U.S. Patent No.: 5,176,927, date of patent 06/05/1993) or Poutanen K (1997) in view of Paice et al., (1986) and Campbell et al., (U.S. Patent No.: 5,405,769, date of patent 04/11/1995).

Claim 67 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haarasilta et al., (U.S. Patent No.: 5,176,927, date of patent 06/05/1993) or Poutanen K (1997), Paice et al., (1986) and Campbell et al., (U.S. Patent No.: 5,405,769, date of patent 04/11/1995) and further in view of Autio et al., (Academic Press, 1996, pages 18-27). The combination of Haarasilta et al., or Poutanen K, Paice et al., and Campbell et al., is described above. Although, said combination teaches the isolation and addition of purified xylanase to bakery products, doughs and in baking, said combination does not explicitly teach xylanase free of glucanase enzymes. Autio et al., teach the effects of purified xylanase and glucanase on the structural and baking characteristics of doughs, said reference discloses that addition of glucanase had a hardening effect on doughs and bakery products (column 1, page 21 and Table 3, page 22). It would have been obvious to a person of ordinary skill in the art to combine the teachings of Haarasilta et al., or Poutanen K, Paice et al., Campbell et al., and Autio et al., to adopt the enzymatic reaction conditions for baking products and doughs comprising the xylanase enzyme to be devoid of glucanase as presence of glucanases catalyzes the breakdown of substrates that results in unwanted hardening effect on said products. Therefore, Claim 67 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haarasilta et al., (U.S. Patent No.: 5,176,927, date of patent 06/05/1993) or Poutanen K (1997), Paice et al., (1986) and Campbell et al., (U.S. Patent No.: 5,405,769, date of patent 04/11/1995) and further in view of Autio et al., (Academic Press, 1996, pages 18-27).

Therefore, the above references render claims 56-70 *prima facie* obvious to one of ordinary skill in the art.

In support of their request that the prior rejection of claims 56-70 under 35 U.S.C. 103(a) be withdrawn, applicants' provide the following arguments. These arguments are relevant to the new rejection explained above.

(A) At the time of the claimed invention, bacterial xylanases were considered to produce very sticky doughs.

(B) The doughs of the claimed invention are surprisingly less sticky than would be expected from bacterial xylanase.

These arguments are not found to be persuasive for the following reasons.

(A) and (B) Reply: Contrary to applicants' arguments, use of bacterial xylanases for improving the texture of baking products and reducing the stickiness of doughs were well known in the art. See for example cited references; 1) Poutanen K, disclose use of xylanases in baking, baking products and doughs and the mechanism of action of added enzymes in baking products such as improved dough handling properties and specifically effect of addition of xylanases to said baking products resulting in improved product quality (column 2, page 302; column 2, page 303 and Fig. 1) and specifically mention that addition of xylanase was effective in increasing the specific volume of wheat bread without causing stickiness (Table 3, page 304) and 2) Campbell et al., teach the isolation of a *Bacillus* xylanase having 100% sequence homology to the amino acid sequence of amino acid residues 29-213 of SEQ ID NO: 5 lacking the leader sequence and also suggest the use of said xylanase for altering the texture in bakery products (column 1).

### ***Summary of Pending Issues***

The following is a summary of issues pending in the instant application.

1) Claims 10, 13 and 44-47 remain withdrawn as they are drawn to non-elected inventions.

2) Claims 56 and 58 are rejected as being anticipated by Paice et al., (Accession No.: P18429, UniProt Database, 1990 and Arch. Microbiol. 1986, Vol. 144: 201-206 cited in IDS) or Wolf et al., (Accession No.: I40569, PIR database, 1996 and Microbiology, 1995, Vol. 41: 281-290, cited in IDS).

3) Claims 57 and 59 are rejected under 35 U.S.C. 102(b) as being anticipated by Campbell et al., (U.S. Patent No.: 5,405,769, date of patent 04/11/1995). This rejection is based upon the public availability of printed publications.

4) Claims 56-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over as being unpatentable over Haarasilta et al., (U.S. Patent No.: 5,176,927, date of patent 06/05/1993) or Poutanen K (1997), Paice et al., (1986) and Campbell et al., (U.S. Patent No.: 5,405,769, date of patent 04/11/1995) and further in view of Autio et al., (Academic Press, 1996, pages 18-27).

### ***Conclusion***

None of the claims are allowable. Claims 56-70 are rejected for the reasons identified in the Rejections and Summary sections of this Office Action. Applicants must respond to the objections/rejections in each of the sections in this Office Action to be fully responsive for prosecution.

*Final Comments*

To insure that each document is properly filed in the electronic file wrapper, it is requested that each of amendments to the specification, amendments to the claims, Applicants' remarks, requests for extension of time, and any other distinct papers be submitted on separate pages.

It is also requested that Applicants identify support, within the original application, for any amendments to the claims and specification.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ganapathirama Raghu whose telephone number is 571-272-4533. The examiner can normally be reached on M-F; 8:00-4:30 pm EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapu Achutamurthy can be reached on 571-272-0928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300 for regular communications and for After Final communications. Any inquiry of a general nature or relating to the status of the application or proceeding should be directed to the receptionist whose telephone number is 571-272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ganapathirama Raghu, Ph.D.  
Patent Examiner  
Art Unit 1652  
Oct. 03, 2007.

/Rebecca Prouty/  
Primary Examiner  
Art Unit 1652